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SET 180T.01: Snowmobile Maintenance and Repair I

Jim Lizotte

University of Montana - Missoula, jim.lizotte@mso.umt.edu

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**THE UNIVERSITY OF MONTANA-MISSOULA
COLLEGE OF TECHNOLOGY
INDUSTRIAL TECHNOLOGY DEPARTMENT**

COURSE SYLLABUS

COURSE NUMBER AND TITLE: SET 180T SNOWMOBILE MAINTENANCE and REPAIR I

DATE REVISED: Fall 2003

SEMESTER CREDIT: 2

CONTACT HOURS PER SEMESTER: 62 (2 ½ week class)

Lecture hours per week: 10

Lab hours per week: 15

PREREQUISITES: SET 177 MOTORCYCLE & ATV ELECTRICAL & FUEL SYSTEMS

INSTRUCTOR: Jim Lizotte

E-MAIL: jim.lizotte@mso.umt.edu

PHONE: 406-243-7642

OFFICE LOCATION: T & T II, West Campus

OFFICE HOURS: Mondays, 8 am to 11 am

RELATIONSHIP TO PROGRAM:

Recreational Power Equipment technicians must have the fundamental knowledge and skills necessary to service and repair snowmobiles. This course, along with the prerequisites, provides the foundation necessary for entry level technicians to be successful on the job.

COURSE DESCRIPTION : The repair and maintenance of air cooled and liquid cooled engines. Units will also include clutch, track and suspension service, as well as fuel system troubleshooting and service.

REQUIRED TEXT: No text is required at this time.

NOTE: a digital multi-meter with a minimum of 10 amp D.C. capabilities is required.

STUDENT PERFORMANCE ASSESMENT METHODS AND GRADING

PROCEDURES:

The following criteria will be used for grading SET 180T SNOWMOBILE MAINTENANCE and REPAIR I

1. Written Tests 30%
2. Lab 55%
 - a. Accuracy and quality of required worksheet completion
 - b. Good use of lab time and following instructions
 - c. Use of shop manuals and forethought
3. Complete, neat and organized notebook of all handout materials and notes 5%

4. Demonstrating skills on a daily basis 5%
5. Lab organization, management, and neatness 5%

Safety glasses will be worn at **ALL** times when working in the lab; and in the classroom when working with storage batteries, chemicals, and soldering. First violation: a reminder; second violation: a warning; additional violations will result in 3% points deducted from final average for each infraction. Example: 88% average with 4 violations would reduce final average to 82%.

GRADING SCALE:

A= 90-100

B= 86-89

C= 75-85

D= 65-74

F= Below 65

NOTE: If you will not be able to attend class, you **MUST** call Lizotte at 243-7642. You are responsible for all make-up. Tests will be announced in advance. There will be no make-up tests except for very extenuating circumstances.

SAFETY: College of Technology safety rules will be followed at all times. Each student will receive a copy. A list is also posted on the classroom bulletin board. Failure to follow the rules can result in removal from class.

Suggestions for success in the RPE program:

1. Attitude is everything
2. Regular attendance is critical; tardiness is unacceptable
3. Take good notes
4. Pay attention
5. Study all assigned material on a regular basis and for tests

HOW VARIOUS ASSESSMENT METHODS WILL BE USED TO IMPROVE THE COURSE:

1. Student course evaluations
2. Peer feedback
3. Advisory committee feedback

COURSE OUTLINE:

1. Introduction to snowmobile repair
 - A. Terms and definitions
 - B. Snowmobile history
2. Two-stroke cycle engine
 - A. Design
 - B. Systems
 - C. Valving
 - D. Crankcase sealing
 - E. Cylinder construction and porting
 - F. Lubrication
 - G. Cooling

3. Four-stroke engines
 - A. Designs
 - B. Systems
 - a. Lubrication
 - b. Cooling
 - C. Carburetors and systems
 - D. Engine service
4. Chain Drives
 - A. Terms and definitions
 - B. Types
 - C. Parts
 - D. Failures
 - E. Troubleshooting
5. Tracks
 - A. Types
 - B. Alignment
 - C. Failures
6. Rear Axles
 - A. Types
 - B. Parts
 - C. Failures
7. Suspension Systems
 - A. Front
 - a. Adjustments
 - b. Ski Alignment
 - B. Rear
 - a. Components
 - b. Adjustments
 - c. Maintenance